

TABLE A-1. (Continued)

	Life (Years)
<b>Nonresidential Structures</b> (Continued)	
Federal (Continued)	
Other	
Buildings	
Industrial	32
All other	50
Highways and streets	60
Conservation and development	60
Other	50
State and local	
Buildings	50
Highways and streets	60
Conservation and development	60
Sewer systems	60
Water supply facilities	60
Other	50
<b>Residential Equipment and Structures</b>	
One-to-four-unit structures	80
Five-or-more-unit structures	65

SOURCE: Department of Commerce, Bureau of Economic Analysis, *Fixed Reproducible Tangible Wealth in the United States, 1925-1985* (June 1987).

- a. Service lives for these categories are varied over time. The lives shown are those used for investment that had not been discarded prior to 1986.
- b. Consists of Bonneville Power Administration, Colorado River Basin Project, Southwestern Power Administration, Tennessee Valley Authority, and Upper Colorado River Storage Project.
- c. Consists of Alaska Railroad, Commodity Credit Corporation, St. Lawrence Seaway Development Corporation, and U.S. Postal Service.
- d. Includes troop housing; family housing for the Armed Forces is included in federal residential capital.

TABLE A-2. BUREAU OF ECONOMIC ANALYSIS  
ASSUMPTIONS ABOUT RETIREMENT PATTERNS

Nonresidential Assets		Residential Assets	
Percent of Average Service Life	Cumulative Percent of Original Expenditures Discarded	Percent of Average Service Life	Cumulative Percent of Original Expenditures Discarded
Less than 45	0	Less than 5	0
45	1.2	5	0.1
50	2.4	10	0.3
55	4.1	15	0.5
60	6.5	20	0.7
65	9.7	25	1.0
70	13.7	30	1.3
75	18.7	35	1.7
80	24.6	40	2.1
85	31.2	45	2.7
90	38.4	50	3.5
95	46.1	55	5.0
100	53.9	60	7.2
105	61.6	65	10.2
110	68.8	70	14.1
115	75.4	75	19.0
120	81.3	80	24.8
125	86.3	85	31.3
130	90.3	90	38.4
135	93.5	95	46.1
140	95.9	100	53.9

(Continued)

TABLE A-2. (Continued)

Nonresidential Assets		Residential Assets	
Percent of Average Service Life	Cumulative Percent of Original Expenditures Discarded	Percent of Average Service Life	Cumulative Percent of Original Expenditures Discarded
145	97.6	105	61.6
150	98.8	110	68.7
155	100.0	115	75.2
		120	81.0
More than 155	100.0	125	85.9
		130	89.8
		135	92.8
		140	95.0
		145	96.5
		150	97.3
		155	97.9
		160	98.3
		165	98.7
		170	99.0
		175	99.3
		180	99.5
		185	99.7
		190	99.9
		195	100.0
		More than 195	100.0

SOURCE: Department of Commerce, Bureau of Economic Analysis, *Fixed Reproducible Tangible Wealth in the United States, 1925-1985* (June 1987).

NOTE: BEA modifications of Robley Winfrey, *Statistical Analysis of Industrial Property Retirement*, Bulletin 125 (Ames, Iowa: Iowa Engineering Experiment Station, Iowa State College, December 1935).



## **APPENDIX B**

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### **ESTIMATES OF GROSS INVESTMENT**

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**(IN 1982 PRICES)**

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Chapter IV and Chapter V show estimates of net investment for four different concepts of government investment. Tables B-1 through B-5 show corresponding estimates of gross investment for each of these concepts. Table B-1 shows gross investment estimates corresponding with the estimates in Chapter IV of net federal physical investment that is comparable with NIPA estimates of net private investment.

The other appendix tables show gross investment for the extended concepts of capital discussed in Chapter V. Table B-2 shows gross federal investment in defense assets, and Table B-3 shows gross private spending for research and development corresponding with gross private investment in intellectual capital. Gross federal investment in research and development is shown in Table B-4. Lastly, Table B-5 shows gross federal capital grants to state and local governments for infrastructure and other physical capital.

TABLE B-1. GROSS FEDERAL PHYSICAL INVESTMENT  
(NIPA basis, in millions of dollars, at 1982 prices)

Year	Structures					
	Civilian Nonresidential					
	Buildings			Other Civilian Nonresidential		
	Hospital and			Conservation and		
	Industrial	Education	Other	Highways	Development	Other
1949	575	633	547	252	3,572	127
1959	462	173	838	362	3,605	170
1969	229	254	537	619	3,490	88
1970	169	340	445	671	3,766	135
1971	381	390	523	709	4,196	180
1972	0	264	617	705	4,175	394
1973	333	296	805	584	4,354	531
1974	204	287	629	427	4,443	401
1975	0	316	725	469	4,456	400
1976	0	335	422	531	4,528	433
1977	0	404	1,460	606	4,637	408
1978	0	452	885	550	5,460	409
1979	0	435	814	568	5,013	279
1980	0	472	775	420	4,948	271
1981	0	522	786	708	4,670	183
1982	0	431	520	654	4,119	204
1983	1	396	708	477	3,955	203
1984	1	450	930	503	3,725	206
1985	1	460	1,086	410	3,600	26
1986	1	490	1,133	346	3,498	368

SOURCE: Department of Commerce, Bureau of Economic Analysis, Reproducible Wealth Series.

NOTE: Excludes government assets operated by private firms and the transfer of the Alaska Railway to the State of Alaska in 1985.

TABLE B-1. (Continued)

Structures (Continued)		Equipment		Gross Federal Investment
Residential Investment	Military Structures	Industrial	Other	
-568	662	1,258	564	7,623
1,885	5,540	1,451	996	15,483
338	2,558	2,267	1,812	12,192
442	1,915	2,322	1,215	11,420
1,076	2,291	2,556	716	13,019
2,008	2,346	699	2,216	13,424
1,824	2,400	1,093	936	13,155
1,529	2,124	1,017	1,130	12,191
396	2,702	733	735	10,933
251	2,397	757	812	10,467
520	2,287	1,213	802	12,337
860	2,221	1,506	841	13,185
410	1,971	1,644	1,121	12,255
749	2,292	1,526	1,796	13,249
690	1,955	1,435	1,424	12,374
598	2,343	2,500	383	11,752
1,047	2,800	2,490	495	12,570
1,344	2,908	1,473	947	12,487
1,470	3,204	1,528	1,106	12,024
2,044	3,427	932	1,204	13,442

TABLE B-2. GROSS INVESTMENT IN DEFENSE ASSETS  
(NIPA basis, in millions of dollars, at 1982 prices)

Year	Military Weapons and Vehicles	Missile Silos	Total Defense Assets
1949	9,211	0	9,211
1950	9,087	0	9,087
1951	21,014	44	21,058
1952	43,786	307	44,093
1953	42,288	557	42,845
1954	35,239	597	35,836
1955	27,862	423	28,285
1956	26,048	293	26,341
1957	20,251	281	20,532
1958	20,642	0	20,642
1959	21,904	183	22,087
1960	22,432	117	22,549
1961	25,724	119	25,843
1962	25,616	86	25,702
1963	25,862	57	25,919
1964	23,718	45	23,763
1965	21,270	53	21,323
1966	22,951	86	23,037
1967	20,827	113	20,940
1968	21,236	90	21,326
1969	20,788	52	20,840
1970	20,680	25	20,705
1971	19,566	19	19,585
1972	24,340	104	24,444
1973	21,062	131	21,193
1974	19,325	145	19,470
1975	23,529	140	23,669
1976	25,432	135	25,567
1977	23,745	88	23,833
1978	29,770	7	29,777
1979	32,725	0	32,725
1980	32,803	0	32,803
1981	34,580	0	34,580

SOURCE: Congressional Budget Office, from budget data and Bureau of Economic Analysis.



TABLE B-3. PRIVATE GROSS INVESTMENT IN INTELLECTUAL  
CAPITAL THROUGH RESEARCH AND DEVELOPMENT  
(In millions of dollars, at 1982 prices)

	Research	Development	Total
1960	5,871	9,615	15,485
1969	8,872	18,103	26,975
1975	9,093	19,750	28,843
1976	9,593	20,683	30,276
1977	9,914	21,571	31,484
1978	10,474	23,118	33,591
1979	11,088	24,686	35,774
1980	11,635	27,037	38,672
1981	13,162	27,727	40,808
1982	13,686	29,137	42,823
1983	14,310	30,455	44,765
1984	15,606	32,611	48,217
1985	16,713	35,202	51,915
1986	17,675	37,593	55,209

SOURCE: Congressional Budget Office, based on budget data from the National Science Foundation and the Office of Management and Budget.

TABLE B-4. FEDERAL GROSS INVESTMENT IN INTELLECTUAL CAPITAL THROUGH RESEARCH AND DEVELOPMENT (NIPA basis, in millions of dollars, at 1982 prices)

Federal Science, Industry, and Commerce Applications								
Federal R&D				Federal Research				Total
	Energy	General Science	Agricul- ture, Trans- port, and Other	Military	Space	Health	Environ- ment and Natural Resources	Federal Industrial/ Commer- cial R&D
1960	1,637	285	1,429	4,374	1,222	1,354	344	10,645
1969	2,604	877	3,045	4,597	2,275	2,769	642	16,808
1975	2,534	1,035	2,855	2,888	1,352	2,886	864	14,413
1976	3,349	1,099	2,520	2,722	1,783	3,025	807	15,305
1977	3,884	1,029	2,715	2,731	1,824	2,446	751	15,380
1978	4,306	1,028	2,913	2,808	1,744	3,486	819	17,104
1979	4,795	1,049	2,749	2,764	1,788	3,800	1,007	17,952
1980	4,489	1,016	2,688	2,988	2,386	3,958	964	18,488
1981	4,380	1,001	2,500	3,054	1,582	3,962	832	17,311
1982	3,596	1,015	2,192	2,923	935	3,992	777	15,430
1983	3,078	988	2,082	3,079	1,104	3,960	765	15,057
1984	3,373	1,057	2,244	2,973	1,296	4,021	733	15,698
1985	3,776	1,114	2,329	2,766	742	4,338	716	15,781
1986	2,760	1,234	2,313	2,843	745	4,533	727	15,156

SOURCE: Congressional Budget Office, based on data from the National Science Foundation and the Office of Management and Budget.

TABLE B-4. (Continued)

Other Federal					All Federal R&D
Federal Development					
Military	Space	Health	Environment and Natural Resources	Total Other Federal	
24,276	970	10	47	25,303	35,948
20,303	9,292	522	175	30,292	47,100
15,166	3,937	737	257	20,096	34,509
14,426	3,668	629	231	18,954	34,259
14,648	3,493	488	174	18,804	34,183
14,894	3,262	633	224	19,013	36,116
14,360	3,261	644	198	18,464	36,416
15,368	2,848	545	157	18,916	37,405
16,220	3,017	503	130	19,871	37,181
17,508	1,588	379	66	19,540	34,970
18,878	1,058	340	53	20,319	35,386
21,561	1,363	337	60	20,322	39,020
25,148	1,598	377	39	27,163	42,943
28,276	1,976	383	43	30,678	45,833

TABLE B-5. PHYSICAL INVESTMENT FINANCING THROUGH  
GRANTS TO STATES AND LOCAL GOVERNMENTS  
(NIPA basis, in millions of dollars, at 1982 prices)

	Investment from Grants to Cities				Subtotal
	Urban Develop- ment	Transit Systems	Waste- water Treatment	Airports	
1949	0	0	3	149	152
1959	338	0	160	218	716
1969	2,127	222	574	261	3,184
1970	3,898	200	732	192	5,022
1971	4,281	340	1,267	208	6,096
1972	4,543	477	1,246	394	6,659
1973	4,448	610	1,484	503	7,045
1974	3,707	875	3,943	522	9,045
1975	4,078	1,232	3,451	432	9,193
1976	4,782	1,509	4,491	368	11,150
1977	5,302	1,861	5,054	588	12,804
1978	5,129	1,976	4,633	778	12,517
1979	5,654	2,285	4,882	687	13,508
1980	6,157	2,670	5,068	630	14,525
1981	5,748	2,871	4,260	462	13,340
1982	5,019	2,631	3,556	367	11,572
1983	4,554	2,706	2,729	492	10,480
1984	4,616	2,782	2,511	673	10,581
1985	4,586	2,511	2,721	719	10,537
1986	3,878	2,364	2,728	774	9,744

SOURCE: Congressional Budget Office, based on data from the Office of Management and Budget and Bureau of Economic Analysis.

TABLE B-5. (Continued)

Highways and Streets	Investment from Other Grants		Subtotal	Total Investment from Federal Capital Grants
	Emergency Public Works	All Other		
1,847	21	88	1,956	2,108
10,631	0	704	11,335	12,051
11,014	4	1,939	12,957	16,141
11,579	1	1,826	13,407	18,429
11,695	0	1,679	13,374	19,471
10,553	0	1,580	12,133	18,793
8,898	0	1,518	10,416	17,461
8,248	0	1,664	9,912	18,958
7,666	0	1,411	9,077	18,271
9,038	216	1,401	10,655	21,805
8,879	1,780	1,337	11,996	24,801
8,325	3,780	1,069	13,174	25,692
8,417	1,730	1,015	11,162	24,671
8,813	380	889	10,082	24,607
8,496	77	798	9,371	22,711
7,971	30	627	8,628	20,201
9,014	0	813	9,827	20,308
10,500	1	924	11,425	22,007
11,382	0	982	12,364	22,902
12,254	0	935	13,188	22,932















